

WHAT IS CLAIMED IS:

- 1 1. An isolated nucleic acid, comprising an IND1 polynucleotide
2 sequence encoding an IND1 polypeptide at least about 70% identical to SEQ ID NO:2.
- 1 2. The isolated nucleic acid of claim 1, wherein the IND1 polypeptide
2 comprises SEQ ID NO:2.
- 1 3. The isolated nucleic acid of claim 1, wherein the IND1
2 polynucleotide comprises positions from about 2765 to about 3361 of SEQ ID NO 1.
- 1 4. The isolated nucleic acid of claim 3, wherein the IND1
2 polynucleotide comprises SEQ ID NO:1.
- 1 5. An expression cassette comprising a promoter operably linked to
2 an IND1 polynucleotide sequence, or a complement thereof, encoding an IND1
3 polypeptide at least about 70% identical to SEQ ID NO:1.
- 1 6. The expression cassette of claim 5, wherein the IND1 polypeptide
2 comprises SEQ ID NO:2.
- 1 7. The expression cassette of claim 5, wherein the IND1
2 polynucleotide comprises positions from about 2765 to about 3361 of SEQ ID NO 1.
- 1 8. The expression cassette of claim 7, wherein the IND1
2 polynucleotide comprises SEQ ID NO 1.
- 1 9. The expression cassette of claim 5, wherein the promoter is
2 constitutive.
- 1 10. The expression cassette of claim 5, wherein the promoter is tissue
2 specific.
- 1 11. The expression cassette of claim 10, wherein the promoter is a
2 dehiscence zone specific promoter.
- 1 12. The expression cassette of claim 11, wherein the promoter
2 comprises positions from about 1 to about 2764 or from about 3362 to about 3856 of SEQ
3 ID NO:1.

1 *but B3* 13. A plant comprising a recombinant expression cassette comprising a
2 promoter operably linked to a polynucleotide sequence encoding an IND1 polypeptide at
3 least about 70% identical to SEQ ID NO: 1.

1 14. The plant of claim 13, wherein the polynucleotide sequence
2 encoding the IND1 polypeptide is operably linked to the promoter in the antisense
3 orientation.

1 15. The plant of claim 13, wherein the polynucleotide sequence
2 encoding the IND1 polypeptide is operably linked to the promoter in the sense
3 orientation.

1 16. The plant of claim 15, wherein the polynucleotide sequence further
2 comprises a second polynucleotide sequence encoding the IND1 polypeptide wherein the
3 second polynucleotide sequence is operably linked to a second promoter in the antisense
4 orientation.

1 17. The plant of claim 13, wherein lignification is reduced in valve
2 margin cells.

1 18. The plant of claim 13, wherein the promoter is a dehiscence zone-
2 selective regulatory element.

19. The plant of claim 18, where in the regulatory element comprises
positions from about 1 to about 2764 or from about 3362 to about 3856 of SEQ ID NO:1.

1 *but B4* 20. A method of delaying fruit dehiscence in a plant, the method
2 comprising suppressing expression of an IND1 nucleic acid in the plant by introducing
3 into the plant a recombinant expression cassette comprising a promoter operably linked to
4 a polynucleotide sequence encoding an IND1 polypeptide at least about 70% identical to
5 SEQ ID NO: 2.

1 21. The method of claim 20, wherein the IND1 polypeptide comprises
2 SEQ ID NO:2.

1 22. The method of claim 20, wherein the IND1 polynucleotide
2 comprises positions from about 2765 to about 3361 of SEQ ID NO:1.

1 23. The method of claim 20, wherein the IND1 polynucleotide
2 comprises SEQ ID NO:1.

1 ~~Ant BS~~ 24. The method of claim 20, wherein the polynucleotide sequence
2 encoding the IND1 polypeptide is operably linked to the promoter in the antisense
3 orientation.

1 25. The method of claim 20, wherein the polynucleotide sequence
2 encoding the IND1 polypeptide is operably linked to the promoter in the sense
3 orientation.

1 26. The method of claim 25, wherein the polynucleotide sequence
2 further comprises a second polynucleotide sequence encoding the IND1 polypeptide
3 wherein the second polynucleotide sequence is operably linked to a second promoter in
4 the antisense orientation.


1 27. The method of claim 20, wherein lignification is reduced in valve
2 margin cells.

1 28. The method of claim 20, wherein the promoter is a dehiscence
2 zone-selective regulatory element.

1 29. The method of claim 28, where in the regulatory element
2 comprises positions from about 1 to about 2764 or from about 3362 to about 3856 of SEQ
3 ID NO:1.

1 30. The method of claim 20, wherein the recombinant expression
2 cassette is introduced into the plant using *Agrobacterium*.

1 31. A method of delaying fruit dehiscence in a plant, the method
2 comprising suppressing expression of an IND1 gene in the plant by introducing into the
3 plant a recombinant expression cassette comprising a polynucleotide sequence at least
4 about 70% identical to positions from about 1 to about 2764 or from about 3362 to about
5 3856 of SEQ ID NO:1.

1 32. The method of claim 31, wherein the polynucleotide sequence
2 comprises positions from about 1 to 2764 or from about 3362 to about 3856 of SEQ ID
3 NO:1. 

1 33. The method of claim 31, wherein lignification is reduced in valve
2 margin cells.

